

What Is Claimed Is:

Sub A B1
1. A vaccine, effective in actively immunizing a subject against infection by Gram-negative bacteria or against lipopolysaccharide (LPS) endotoxin-mediated pathology, comprising a non-covalent complex between purified ^{detoxified} LPS endotoxin derived from *E. coli* and purified outer membrane protein derived from *N. meningitidis*.

2. A vaccine of claim 1, wherein said *E. coli* is strain J5 (Rc chemotype).

3. A vaccine of claim 1, wherein said *N. meningitidis* is group B strain.

4. A vaccine of claim 1, wherein said purified LPS endotoxin of said non-covalent complex is also detoxified.

AB
5. A vaccine of claim 1, wherein the weight ratio of said purified outer membrane protein to said purified LPS ^{and detoxified} endotoxin in said non-covalent complex is between 1 and 2.

A
Sub B2
6. A method of actively immunizing a subject against infection by Gram-negative bacteria and ^{endotoxin} LPS-induced pathology, comprising administering to said subject an effective amount of a vaccine comprising a complex between purified LPS endotoxin derived from *E. coli* and purified outer membrane protein derived from *N. meningitidis*.

Sub D2
7. A method of claim 6, wherein said *E. coli* is strain J5 (Rc chemotype).

8. A method of claim 6, wherein said *N. meningitidis* is group B strain.

A

9. A method of claim 6, wherein said purified ~~LPS~~ endotoxin is detoxified.

10. A method of claim 6, wherein said Gram-negative bacterial infection is a meningococcal infection.

11. A method of passively conferring upon a second subject protection against infection by Gram-negative bacteria or LPS-mediated pathology, comprising the steps of:

- a) actively immunizing a first subject with a vaccine comprising a non-covalent complex between purified LPS endotoxin derived from *E. coli* and purified outer membrane protein derived from *N. meningitidis*;
- b) collecting from said first subject a post-immune serum or plasma, or IgG isolated therefrom; and,
- c) administering to said second subject an amount of said serum or plasma or IgG isolated therefrom that is effective in conferring passive protection against a infection by Gram-negative bacteria and LPS-mediated pathology.

12. A method of claim 11, wherein said *E. coli* is strain J5 (Rc chemotype).

13. A method of claim 11, wherein said *N. meningitidis* is group B strain.

14. A method of claim 11, wherein said purified LPS endotoxin is detoxified.

15. An immunogenic composition comprised of (i) a non-covalent complex between purified, detoxified ~~LPS~~ endotoxin derived from *E. coli* and (ii) purified outer membrane protein derived from *N. meningitidis*.

Sub D3

Sub D3

Sub A
B3

Sub-D4
16. A composition of claim 15, wherein said *E. coli* is strain J5 (Rc chemotype).

17. A composition of claim 15, wherein said *N. meningitidis* is group B strain.

~~18. Serum, plasma or specific polyclonal antibody~~
obtained from a subject immunized with a vaccine according to claim 1.

derived therefrom

*add
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